



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/842,531

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Filed: April 25, 2001

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Inventor:

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Hyon T. Kim

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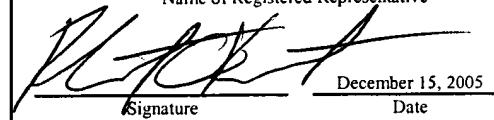
Title: Maintaining Fabric Device
Configuration Through
Dynamic Reconfiguration

Examiner: Nguyen, Hai V.
Group/Art Unit: 2142
Atty. Dkt. No: 5181-83600

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Robert C. Kowert

Name of Registered Representative



December 15, 2005

Date

Signature

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant requests review of the final rejection of claims 1-90 in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reasons stated below.

Claims 1-90 remain pending in the application. Applicant has received the Advisory Action dated December 5, 2005. Reconsideration of the present case is earnestly requested in light of the following remarks. Please note that for brevity, only the primary arguments directed to the independent claims are presented, and that additional arguments, e.g., directed to the subject matter of the dependent claims, will be presented if and when the case proceeds to Appeal.

The Final Action rejected claims 1-90 under 35 U.S.C. § 103(a) as being unpatentable over Casper et al. (U.S. Patent 6,687,766) (hereinafter “Casper”) in view of Blumenau et al. (U.S. Patent 6,421,711) (hereinafter “Blumenau”). The following clear errors in the Examiner’s rejection are noted.

With respect to claim 1, neither Casper nor Blumenau, taken individually or in combination, teach or suggest all of the limitations of Applicant's claim. Specifically, the cited art does not teach or suggest a method for handling fabric state changes, comprising receiving an event indicating a fabric state change for one or more host adapter ports and dynamically changing the host system's fabric device configuration in response to said receiving an event, wherein dynamically changing comprises bringing online or taking offline one or more fabric devices for the one or more host adapter ports for the host system.

The Examiner relies on Casper to disclose the limitation of receiving an event indicating a fabric state change, and acknowledges that Casper does not teach or suggest any aspect of dynamically changing a host system's configuration in response to such a fabric state change event. The Examiner relies on Blumenau, col. 33, line 10 – col. 34, line 50 to teach this limitation. However, the combination of Casper and Blumenau fails to teach or suggest Applicant's claimed invention on a number of counts.

First, the logical volume configuration changes of Blumenau have nothing to do with fabric state change events, as recited in claim 1. At col. 33, lines 29-40, Blumenau explicitly discloses that "a host application may need additional storage volumes, or may no longer need storage volumes allocated to it." Responsively, the host of Blumenau may issue "mount" or "unmount" commands for those volumes. However, an application adding or releasing storage volumes based on its own operational requirements for such volumes is not at all suggestive of changing a host system's fabric device configuration in response to receiving an event indicating a fabric device state change. In this discussion, Blumenau appears to assume that a storage subsystem is capable of responding to any request to mount or unmount volumes received from a host system, and does not discuss any aspect of the online/offline state of the devices underlying those volumes with respect to host configuration events. Applicant notes that the operations of Blumenau at the storage volume level of abstraction are neither identical to nor suggestive of the operations of Applicant's claim 1, which specifically recites a fabric device level of operation. Whether or not an abstract storage volume is mounted or unmounted does not mean that the online/offline state of an underlying fabric device is changed.

In the "Response to Arguments" section of the Final Action, the Examiner remarks that Applicant has argued in substance that "...the prior art do not discloses [sic] that, 'fabric state change

events' [sic] in independent claims." The Examiner responds by reiterating a previously-cited portion of Casper and quoting from Blumenau, col. 11, lines 42-55. In the Advisory Action, the Examiner simply reiterates previous references to Casper and Blumenau. However, the Examiner's characterization overlooks the substance of Applicant's argument, and completely fails to address key points raised by Applicant. Applicant has not argued only that the cited art does not disclose fabric state change events, as the Examiner seems to imply. Rather, Applicant has argued that the cited art fails to teach the specific limitations of claim 1, which extend beyond a simple recitation of fabric state change events.

To reiterate, claim 1 specifically recites that a host system's fabric device configuration is dynamically changed in response to receiving an event indicating a fabric state change for one or more host adapter ports of the host system, where the dynamic changing comprises bringing online or taking offline one or more fabric devices for the one or more host adapter ports for the host system. The Examiner has specifically acknowledged that Casper does not teach or suggest any aspect of the dynamic changing of the host system's configuration in response to receiving a fabric state change event, and the Examiner's reiteration of Casper, col. 48, lines 17-29 in the "Response to Arguments" section has no bearing on this fact. The Examiner thus relies on Blumenau to teach this limitation in the level of detail recited in claim 1. However, Blumenau fails to do so, and the Examiner's citation of Blumenau, col. 11, lines 42-55 brings nothing to bear with respect to claim 1. Specifically, the cited passage recites that "[a] fabric may also support a 'state change notification' process in which ports having operational links to the fabric may request to be notified by the fabric when a state change is detected." But this is nothing more than a disclosure of a general fabric state change event. Nothing in this portion – or the remainder – of Blumenau addresses the limitation of dynamically changing a host system's fabric device configuration in response to receiving an event indicating a fabric state change, where the dynamic changing comprises bringing online or taking offline one or more fabric devices for the one or more host adapter ports for the host system, as explicitly required by Applicant's claim 1.

In the previous response, Applicant offered detailed arguments, repeated below, supporting Applicant's assertion that Blumenau (whether considered alone or in combination with Casper) not only fails to teach or suggest the referenced limitations of claim 1, but is in fact directed to an entirely different level of operational scope than is referenced in claim 1. Applicant notes that the Examiner failed to rebut or even acknowledge these arguments.

Second, the host-side state change events of Blumenau (whether considered alone or in combination with Casper) have nothing to do with fabric state change events. At col. 34, line 65 – col. 35, line 4, Blumenau discloses the operation of a storage subsystem (which encompasses any storage devices that may be present) in response to a host being disconnected from the storage subsystem. However, this is precisely the opposite of dynamically changing the host system's fabric device configuration in response to a fabric state change event as recited in claim 1. That is, Blumenau is directed to the problem of a storage subsystem modifying its configuration in response to a change in state of *some host* (not the fabric) connected to the storage subsystem. This is entirely different from the problem of changing the fabric device configuration of a host system in response to a fabric state change event. In fact, Blumenau confines his discussion to the operation of the storage subsystem and treats the hosts as opaque entities whose operation is peripheral to that of the storage subsystem. Aside from the application-driven volume configuration requests described above, and the general reading and writing of data to storage volumes, it is unclear that the hosts of Blumenau bear any significant relationship to the configuration and operation of the storage subsystem. This is clearly distinct from claim 1, in which it is the host system's configuration that is subject to modification in response to a fabric state change event. The Examiner has never addressed this distinction.

Further, Blumenau explicitly acknowledges that his disclosures have nothing to do with fabric state change events. At col. 34, lines 53-55, Blumenau notes that “If a fabric exists, the problem of propagating the [fabric controller state change] information through a fabric switch has not yet been solved by the FC [Fibre Channel] standard.” In the face of such an explicit acknowledgement, it is impossible to read the disclosures of Blumenau regarding host-side events as being at all applicable to events arising from the fabric interface. Thus, Blumenau provides no suggestion or motivation for combining his host-side event detection and configuration techniques with the teachings of Casper. In fact, Blumenau suggests that such a combination is not feasible, and therefore is considered to teach away from Applicant’s claimed invention. Applicant notes that the Examiner has not addressed this argument in either the Final Action or the Advisory Action.

Since the Examiner has acknowledged that Casper does not teach or suggest any aspect of dynamically changing a host system’s configuration in response to a fabric state change event, and the Blumenau reference itself acknowledges that Blumenau has nothing to do with fabric state change events, the combination of Casper and Blumenau clearly fails to teach or suggest the explicit relationship between receiving an event indicating a fabric state change for one or more host adapter

ports and dynamically changing the host system's fabric device configuration in response to receiving such an event that is recited in Applicant's claim 1. Therefore, Applicant submits that the rejection of claim 1 is not supported by the teachings of the cited art. Similar arguments apply to claims 31 and 61, each of which recites limitations similar to claim 1.

Further, Applicant notes that numerous ones of the dependent claims recite additional distinctions over the cited art. However, since the rejection of the independent claims has been shown to be unsupported by the cited art, no further discussion of the dependent claims is necessary at this time.

In light of the foregoing remarks, Applicant submits the application is in condition for allowance, and notice to that effect is respectfully requested. If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicant hereby petitions for such an extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 501505/5181-83600/RCK.

Also enclosed herewith are the following items:

- Return Receipt Postcard
- Notice of Appeal

Respectfully submitted,



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